

Amendment under 37 CFR §1.111  
Attorney Docket No.: 052485  
Application No.: 10/532,077

**REMARKS**

Claims 1-8 are pending in the present application. Claims 6 and 8 are withdrawn from consideration. Claim 1 is herein amended. No new matter has been entered.

**Specification Objection**

The abstract of the disclosure was objected to. The Examiner states that the abstract should be within 150 words. The abstract has been amended to be within 150 words.

Withdrawal of the objection is requested.

**Claim Rejections - 35 U.S.C. §§ 102 and 103**

Claims 1-5 were rejected under 35 U.S.C. § 102(b) as being anticipated by **Okada** (US 5,985,303); and claims 1 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over **Okada** in view of **Hiramatsu** (JP 07-046973, as evidenced by the machine translation).

Claim 1 has been amended to recite that the humidity-dependent antibacterial powdery composition comprises an aggregate of hygroscopic spherical-shaped capsule particles enclosing the volatile oily antibacterial substance, and that the capsule particles comprise a water-soluble film forming agent. Support for the amendment is in the specification at *e.g.*, page 9, lines 20-24 and page 6, lines 15-17, respectively.

Applicants respectfully submit Okada does not teach or suggest the composition as recited in amended claim 1. In particular, Applicants respectfully submit that Okada does not teach or suggest:

[a] humidity-dependent antibacterial powdery composition characterized in that it comprises a volatile oily antibacterial substance and a water-

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*soluble film forming agent and the behavior of release of the antibacterial substance is changed depending on humidity*

as recited in claim 1.

The Office Action cites col. 3, line 22 to col. 4, line 34 of Okada for disclosing that the behavior of release of the antibacterial substance is changed depending on humidity. (Office Action, page 4.) However, this passage describes the biostatic effect and the problems encountered when the food to be protected is “water-rich.” (Col. 3, lines 22-32.) Okada also discloses that the humidity within a product package can be controlled with the use of a highly water-absorbent polymer. (Col. 4, lines 10-22.) Thus, Okada only discloses the difficulty of contact of the isothiocyanic acid compound with foods that are water-rich or when the atmosphere is humid. Okada does not disclose that release of the isothiocyanic acid compound is dependent upon humidity.

Applicants have attached to this response a Declaration under 37 C.F.R. § 1.132 demonstrating that the composition of Okada does not have the behavior of release of the antibacterial substance depending on humidity. The Declaration includes experimental results of a comparison of a composition as recited in the present claims with the composition of Okada.

Okada does not teach or suggest the behavior of release of the antibacterial substance that is changed depending on humidity, and thus, Okada does not teach or suggest all of the elements as recited in amended claim 1.

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For at least the foregoing reasons, claim 1 is patentable over the cited references, and claims 2-5 and 7 are patentable by virtue of their dependence from claim 1. Accordingly, withdrawal of the rejection of claims 1-5 and 7 is hereby solicited.

In view of the aforementioned amendments, accompanying remarks, and evidence submitted in the Declaration, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

**WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP**



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AGM/adp  
Attachment: Declaration under 37 C.F.R. § 1.132



**UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Application of: **Shigeo II et al.**

Art Unit: **4161**

Application Number: **10/532,077**

Examiner: **Christopher Lea**

Filed: **April 21, 2005**

Confirmation Number: **6204**

For: **HUMIDITY-DEPENDENT ANTIBACTERIAL POWDERLY COMPOSITION,  
PROCESS FOR PRODUCING THE SAME, HUMIDITY-DEPENDENT  
ANTIBACTERIAL FOOD STORING ARTICLE AND METHOD OF STORING FOOD**

Attorney Docket Number: **052485**  
Customer Number: **38834**

**DECLARATION UNDER 37 C.F.R. §1.132**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

I, Shigeo Ii, a citizen of Japan, hereby declare and state the following:

1. I graduated from Ritsumeikan University in Japan, in 1971 with a degree in Microbiology.
2. Since 2003, I have been employed by Mitsubishi-Kagaku Foods Corporation of Tokyo, Japan.
3. I have a total of 33 years of work and research experience in Pharmacy and Food Additive.
4. I have read and am familiar with the above-identified patent application as well as the Official Action dated June 13, 2008, in the application.
5. I have read and am familiar with the contents of cited references, U.S. Patent No. 5,985,303 to Okada; and JP 07-046973 to Hiramatsu cited in the Official Action in the above-identified application.

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6. Under my supervision and control, I conducted experiments to obtain data to investigate a difference of relation between humidity and releasing property of allyl isothiocyanate (AIT, hereinafter) of the composition of the present invention and the composition described in the cited document (U.S. 5,985,303).

7. Explanation of Experiment and Results:

(a) Sample

The composition of the present invention (CS, hereinafter) was prepared in accordance with Example 4 of the specification. The composition described in the cited document (XA, hereinafter) was prepared in accordance with Example A-1 in U.S. 5,985,303.

(b) Experiment procedure

The samples were left under atmosphere of humidity of 100%RH, 75%RH and 50%RH at 25°C, they were sampled with time, and a residual ratio of AIT (%) was measured.

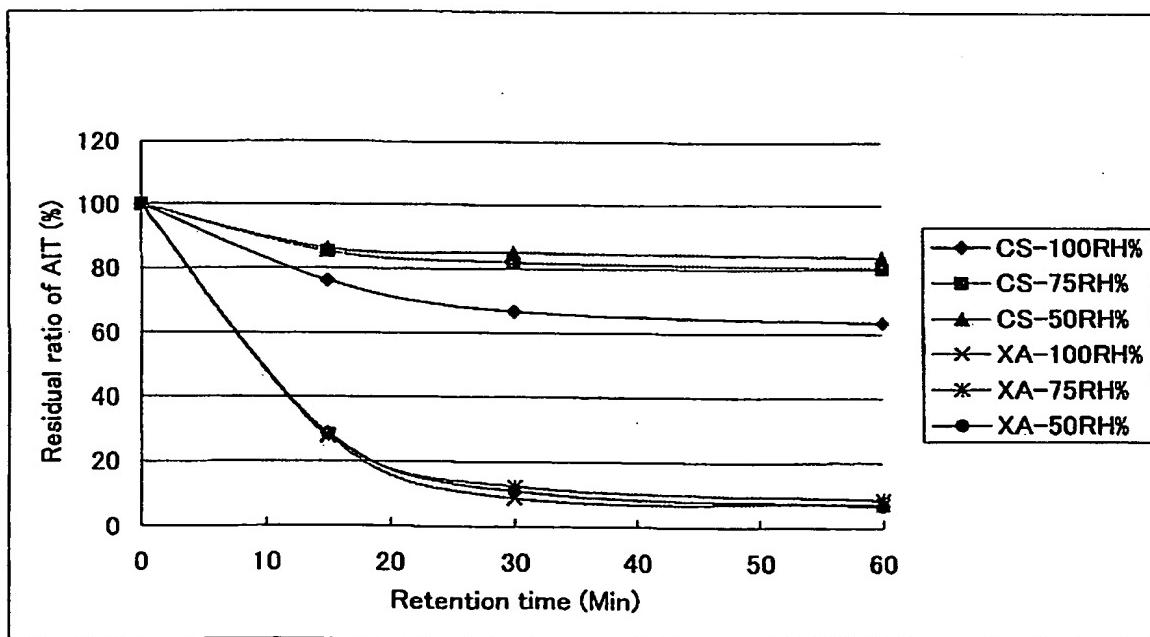
Results of Experiment

Results of experiment are shown in the following graph. In the case of the composition of the present invention, AIT was gradually released under the condition of 100%RH (CS-100%RH). Under the condition of 75%RH, the releasing speed of AIT was slower than that under condition of 100%RH. In the composition of the present invention, the releasing speed of AIT was varied depending upon the humidity. In the case of the composition described in the cited document, on the other hand, the releasing speed of AIT was not varied depending upon the humidity, the releasing speed was fast under any of the conditions, the

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residual ratio of AIT was only about 28% when 15 minutes were elapsed after the test started, and was only about 10% when 30 minutes were elapsed after the test was started.

These results can be considered as follows. That is, in the case of the composition described in the cited document, since AIT is merely adsorbed with the xanthane gum, AIT is released irrespective of humidity. In the case of the composition of the present invention, on the other hand, AIT is enclosed in the capsule particle constituted by water-soluble film forming agent, and when the capsule is collapsed by moisture, AIT is released and thus, the releasing speed of AIT becomes faster under the condition of high humidity, and when the humidity is low, the releasing speed of AIT becomes slower. Accordingly, the composition of the present invention and the composition described in the cited document are quite different from each other.



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8. From the attached experimental results, I have concluded, among other things, that the composition described in U.S. 5,985,303 to Okada does not have a behavior of release of the antibacterial substance that changes depending on humidity.

The undersigned declares that all statements made herein of his own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that willful false statements may jeopardize the validity of the application or any patent issued thereon.

*Shigeo Ii*

Shigeo Ii

Signed this 30 day of October, 2008.